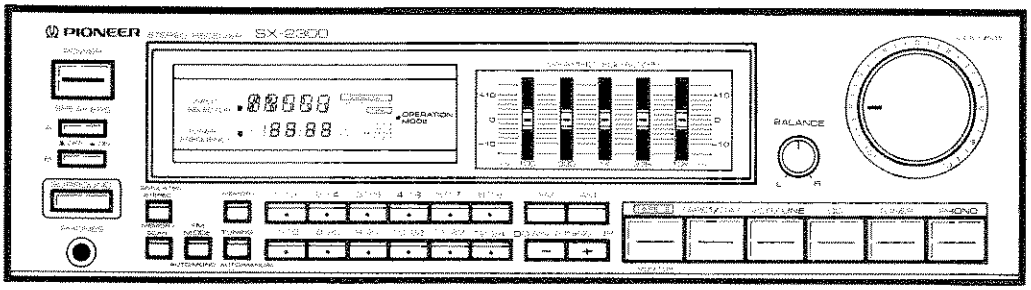
Operating Instructions

STEREO RECEIVER

SX-2300
SX-1300



• The illustration shows model SX-2300.

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE

[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

[For Canadian model]

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

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The future of sound and vision.

IMPORTANT 1

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT 2

If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last, make sure that the power switch is off. Disconnect the wall plug when the equipment is not in (regular) use, e.g. when on vacation.

FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.
Equipment sold in the U.K. is not supplied with a power plug.

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The operating instructions should be retained for future reference.

HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

POLARIZATION — If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped; or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

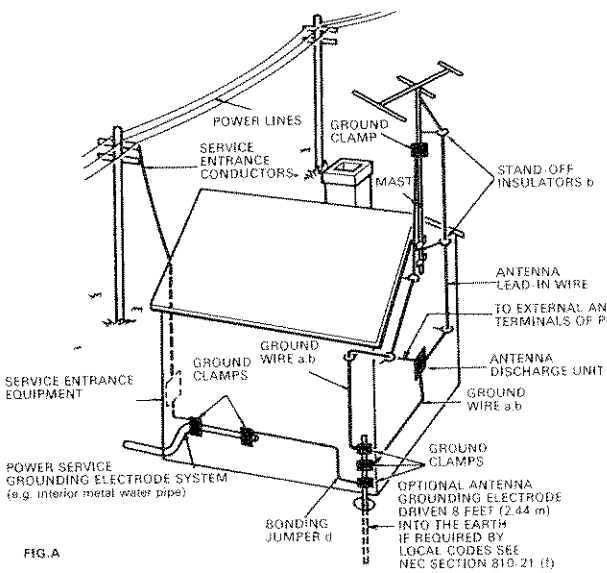

POWER LINES
GROUND CLAMP
SERVICE ENTRANCE CONDUCTORS
MAST
STAND-OFF INSULATORS b
ANTENNA LEAD-IN WIRE
TO EXTERNAL ANTENNA TERMINALS OF PRODUCT
GROUND WIRE a,b
GROUND CLAMPS
ANTENNA DISCHARGE UNIT c
SERVICE ENTRANCE EQUIPMENT
GROUND WIRE a,b
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (e.g. interior metal water pipe)
OPTIONAL ANTENNA GROUNDING ELECTRODE DRIVEN 8 FEET (2.44 m) INTO THE EARTH IF REQUIRED BY LOCAL CODES SEE NEC SECTION 810-21 (f)
BONDING JUMPER d

FIG.A

a) Use No. 10 AWG (5.3 mm^2) copper, No. 8 AWG (8.4 mm^2) aluminum, No. 17 AWG (1.0 mm^2) copperclad steel, bronze wire, or larger as ground wire.

b) Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.

c) Mount antenna discharge unit as closely as possible to where lead-in enters house.

d) Use jumper wire not smaller than No.6 AWG (13.3 mm^2) copper, or the equivalent, when a separate antenna-grounding electrode is used.
See NEC Section 810-21 (j).

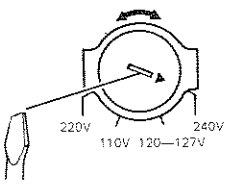
BEFORE OPERATING, CHECK THE POSITION OF THESE SWITCHES

LINE VOLTAGE SELECTOR SWITCH

Only multi-voltage models are provided with this switch. U.S., Canadian, European, U.K., and Australian models are not provided with this switch.
Mains voltages in Saudi Arabia are 127V and 220V only. Never use this model with 110V setting in Saudi Arabia.
The line voltage selector switch is on the rear panel. Before your model is shipped from the factory, this switch is set to the power requirements of the destination. Check that it is set properly before plugging the power cord into the AC outlet. If the voltage is not properly set or if you move to an area where the voltage requirements differ, adjust the selector switch as follows.

1. Use a medium-size screwdriver.
2. Insert the screwdriver into the groove on the voltage selector, and adjust so that the tip of the groove points to the voltage value of your area.

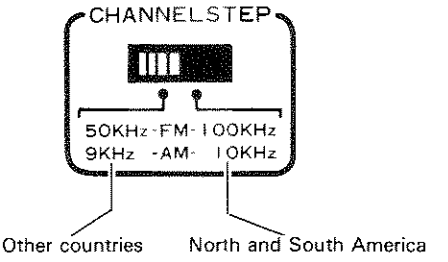
Medium-size screwdriver



CHANNEL STEP SWITCH

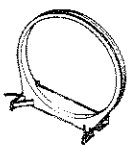
Only multi-voltage models are provided with this switch. U.S., Canadian, European, U.K., and Australian models are not provided with this switch.
Before your model is shipped from the factory, the switch is set to the channel allotment plan of the destination; nevertheless, you should check that it is set properly before use.
If the switch is set to the wrong position, figures on the frequency display will not come to a stop with FM or AM tuning.

NOTE:
Contact your dealer for more information if you are not sure about the channel allotment plan in your area.



CHECKING ACCESSORY ITEMS

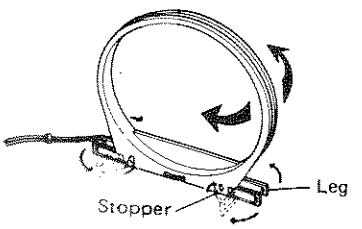
FM T-type Antenna



AM Loop Antenna

AM loop antenna construction

- Unfold all four legs of the AM loop antenna toward the outside, and insert the stopper inside the legs into the hole in the AM loop antenna to fix it in position.



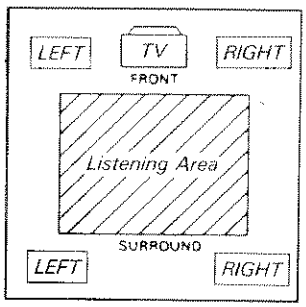
SURROUND SYSTEM (SX-2300 Only)

What is surround sound?

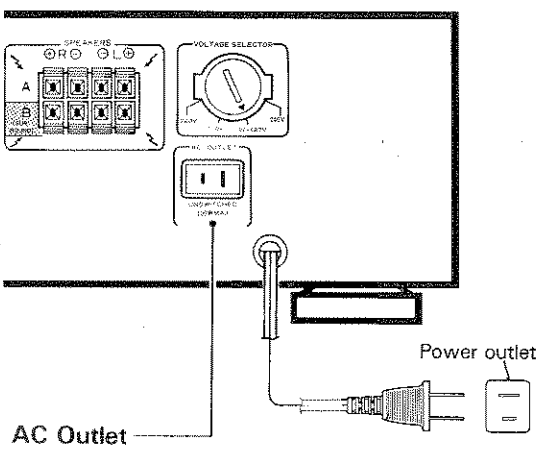
With ordinary stereo, sound normally comes only from speakers in front of the listener. In a concert hall or theater though, sound reflected from the walls and ceiling reaches the listener from all directions. This is what accounts for the feeling of ambience or spaciousness of a live performance. Surround sound works to reproduce these effects to provide fuller, more "live" sound.

Surround Speakers Installation Example

For getting the most out of the surround system, place the speakers as shown below.



CONNECTING THE POWER CORD



Power flows continually to this outlet, regardless of whether the receiver's POWER switch is ON or OFF. Electrical power consumption of the connected equipment should not exceed 100 W.

The equipment should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g. when on vacation.

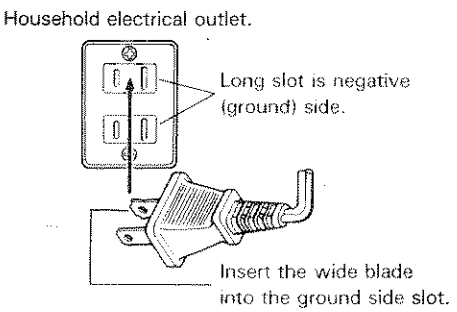
NOTE:

Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET, in order to avoid overheating or fire.

This can cause the receiver to malfunction.

CONNECTING THE POWER CORD (For U.S.A. and Canadian models)

Household electrical outlets are provided with specific polarity, a positive side and a negative (ground) side. This unit utilizes such polarity in order to improve sound quality. As shown in the illustration, be sure to insert the power plug so that its blades match the width of slots in the outlet.



REAR PANEL FACILITIES

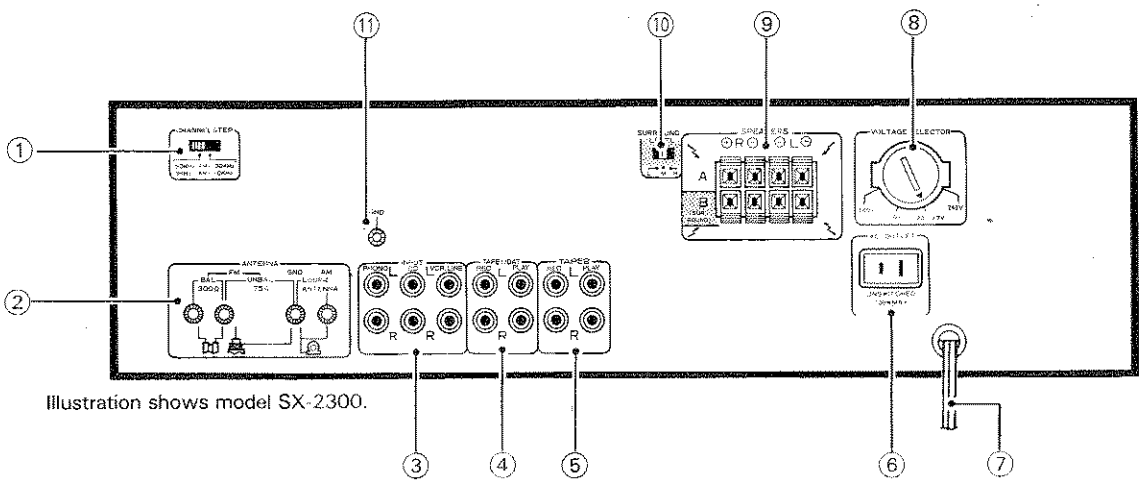


Illustration shows model SX-2300.

① CHANNEL STEP switch (See page 3)

② FM/AM ANTENNA terminals
Use these antenna terminals for receiving FM and AM broadcasts.

③ INPUT jacks
PHONO ... Connect to the output cables from a turntable.
CD ... Connect to the output jacks of a compact disc player.
VCR/LINE .. Connect to the output jacks of a video cassette recorder etc.

④ TAPE 1/DAT jacks
Connect these jacks to the tape deck or digital audio tape deck.

⑤ TAPE 2 jacks
Connect these jacks to the tape deck.

⑥ AC OUTLET (See page 4)

⑦ POWER CORD (See page 4)

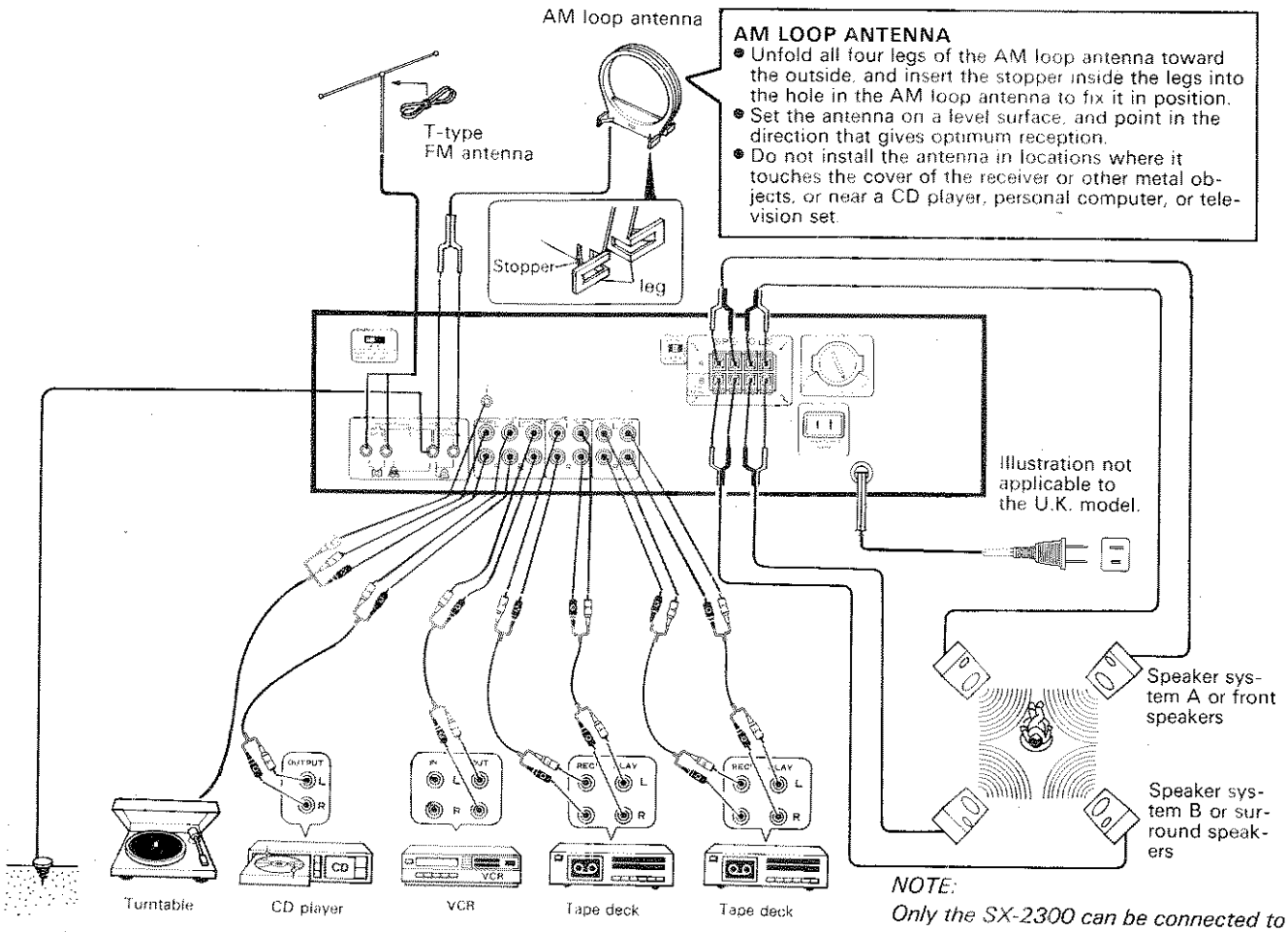
⑧ VOLTAGE SELECTOR (See page 3)

⑨ SPEAKERS terminals
A : Connect to a first set of speakers (or the front speakers in a surround system).
B : Connect to a second set of speakers (or the surround speakers in a surround system (SX-2300 only)).

⑩ SURROUND LEVEL selector switch (SX-2300 only)
By selecting one of the three positions (L: Low, M: Mid, H: High), the sound volume from the surround speakers can be changed.

⑪ GND terminal
Connect to the ground lead of a turntable.

CONNECTIONS


AM loop antenna
T-type FM antenna
Stopper
leg
AM LOOP ANTENNA
● Unfold all four legs of the AM loop antenna toward the outside, and insert the stopper inside the legs into the hole in the AM loop antenna to fix it in position.
● Set the antenna on a level surface, and point in the direction that gives optimum reception.
● Do not install the antenna in locations where it touches the cover of the receiver or other metal objects, or near a CD player, personal computer, or television set.
Illustration not applicable to the U.K. model.
Speaker system A or front speakers
Speaker system B or surround speakers
Turntable
CD player
VCR
Tape deck
Tape deck

NOTE:
Only the SX-2300 can be connected to a surround system.

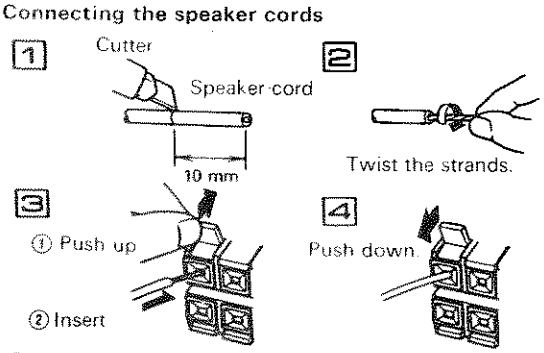
Antenna ground

Although grounding is not necessary for reception it is recommended for protection against damage from lightning if an outdoor FM antenna is used. Grounding is recommended as well, to help reduce noise and hum.

NOTE:
Never make the ground connection to a gas pipe as sparks could cause the gas to ignite.

Audio input/output jacks of this unit are dull and tin-plated, aiming at high quality.

Connecting the speaker cords



Connecting the input/output cords

When another stereo component (purchased separately) is connected, note the following instructions:

- Connect the plugs properly. Faulty connections can cause noise and also breakdowns and failures.
- The white terminal is for the left channel and the red terminal is for the right channel.

NOTE ABOUT SPEAKER CONNECTIONS

[SX-2300]

When using either A or B:

- The speaker systems used should have an impedance of between 6 and 16 ohms.

When using A and B simultaneously:

- The speaker systems used should have an impedance of between 12 and 32 ohms.

When using a surround system:

- The speaker systems used should have an impedance of between 8 and 16 ohms.

[SX-1300]

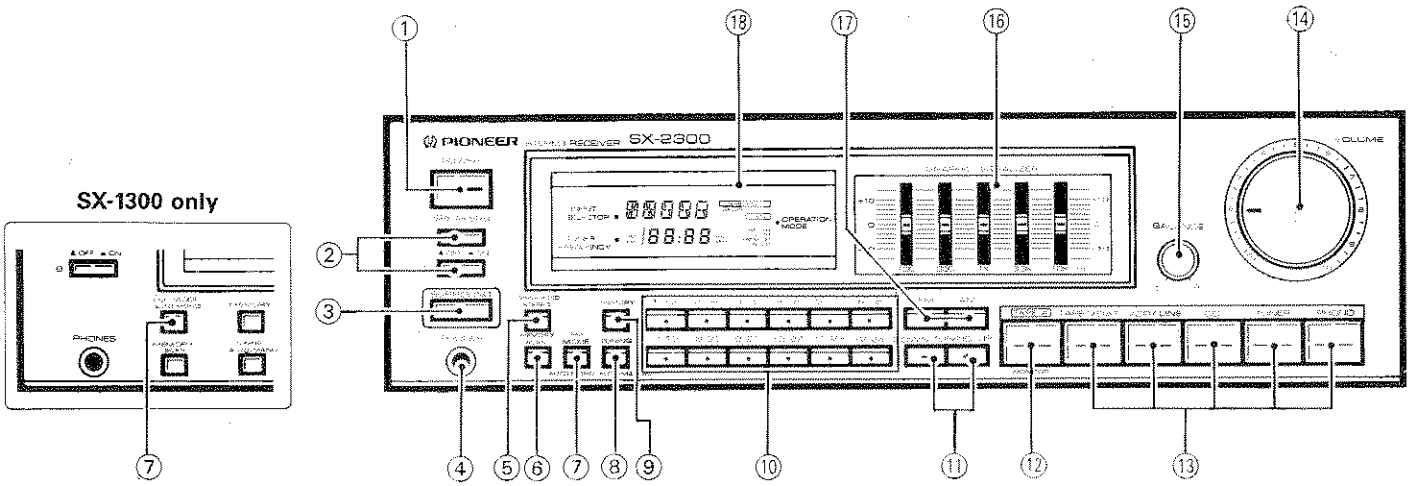
- Speaker systems used should have an impedance of between 8 and 16 ohms.

[SX-2300/SX-1300]

- Be sure that connections are secure. Check to make sure that wires do not protrude from their terminals.
- Do not allow the speaker cords to become shorted. Damage may result to your unit.
- Do not attempt to simultaneously connect two sets of speakers to a single side (A or B). When using two sets of speakers, connect one set to side A and one set to side B.

FRONT PANEL FACILITIES

The illustration shows model SX-2300.



① POWER switch
When this switch is pressed, power is supplied to the unit. Press the switch again to turn power off.

② SPEAKERS switches (■ OFF, ■ ON)
These are used to select the speaker through which you wish to listen.

A: When the speakers connected to A terminals are in use.

B: When the speakers connected to B terminals are in use.

- Turn both A and B speakers to OFF position when only the HEADPHONES are inuse.

NOTE: (SX-1300 only)

No sound will be heard through the speakers when both A and B switches are depressed if only one set of speakers has been connected to either A or B SPEAKERS terminals.

③ SURROUND selector switch (SX-2300 only)
By pressing the A and B SPEAKERS switches, then pressing this switch ON, you can obtain surround reproduction. If you press this switch OFF again, normal reproduction from both speakers A and B will be obtained.

④ PHONES jack
Connect the plug on your headphones to this jack. To listen to a program through the headphones, set both SPEAKERS A and B switches to the OFF position.

⑤ SIMULATED STEREO switch (SX-2300 only)
This turns monaural signals into simulated stereo sound. Use this when you wish to experience the sense of stereo presence with AM broadcasts, VCR or other monaural signal sources.

NOTE:

This function can also be used with stereo sources, but it will result in a different sound from the normal stereo sound.

⑥ MEMORY SCAN switch
Press this switch to scan the stations in the memory.

⑦ FM MODE AUTO/MONO selector switch
Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the FM MONO indicator is lighted.

Auto stereo mode:

Normally leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo sound.

Monaural mode:

When receiving distant stations or stations with weak broadcast signals, the input signal may be weak, thus resulting in increased noise during FM stereo broadcasts. In this event, setting the receiver to the monaural mode will reduce the noise. In this case, however, FM stereo broadcasts will be reproduced in monaural sound.

NOTE:

This switch has no effect on reception of AM broadcasts.

⑧ TUNING AUTO/MANUAL switch
Works during FM reception.

Use this switch to select either the AUTO mode or the MANUAL mode.

When the "AUTO" indicator is lit, the receiver is in the AUTO mode. (See page 9)

⑨ MEMORY switch
This is used to memorize stations. When the switch is pressed, the frequency indicator will flash. To memorize the frequency of any station, press the STATION CALL switch while the frequency indicator is flashing. (See page 10.)

⑩ STATION CALL switches
These switches are used to preset and recall desired broadcasting stations.

⑪ TUNING switches (DOWN, UP)

UP: The FM or AM band is scanned in the direction of increasing frequency.
DOWN: The opposite operation to that of the UP switch takes place.

⑫ Tape monitor switch

[TAPE 2] — Press when listening to tape playback with a tapedeck.

⑬ FUNCTION switches

Use to select playback source.
[TAPE 1/DAT] — Press when listening to tape playback with a cassette tape deck or digital audio tape deck.
[VCR/LINE] — Press when listening to programs from a component connected to the VCR/LINE terminals.
[CD] — Press when listening to compact disc playback with a CD player.
[TUNER] — Press when listening to AM or FM broadcasts with a tuner.
[PHONO] — Press when listening to record playback on a turntable.

⑭ VOLUME control

Use to adjust volume level.

⑮ BALANCE control

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the LEFT position and if the left side is louder, turn toward the RIGHT position.

⑯ GRAPHIC EQUALIZER controls

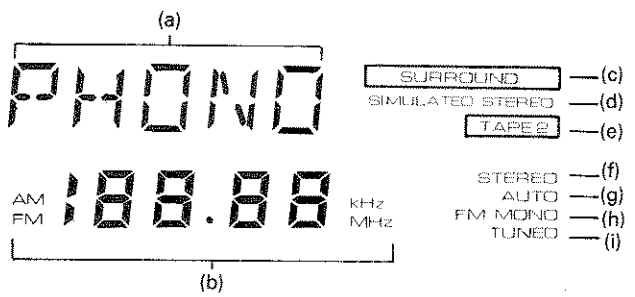
The equalizer is divided into five frequency ranges (100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz) to tailor music to the individual taste of the listener.

⑰ Band Selector switches

These switches are used to select either AM or FM reception.
AM: Push this switch for AM reception.
FM: Push this switch for FM reception.

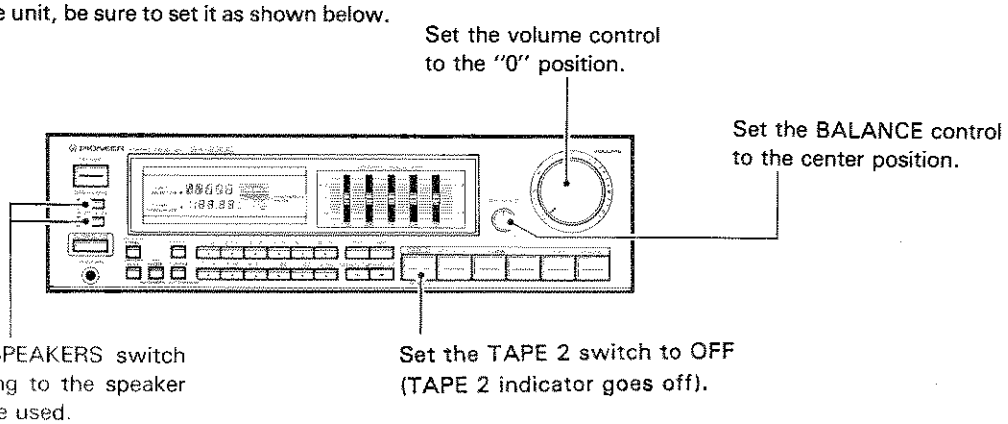
⑱ OPERATION DISPLAY panel

(a) Indicates the function selected by the function switches.
(b) Indicates frequency or channel (STATION CALL number).
(c) SURROUND indicator
(d) SIMULATED STEREO indicator
(e) TAPE monitor indicates
(f) FM STEREO indicator
(g) AUTO tuning indicator
(h) FM MONO indicator
(i) TUNED indicator



SETTING THE UNIT PRIOR TO OPERATION

- Before operating the unit, be sure to set it as shown below.


Set the volume control to the "0" position.
Set the BALANCE control to the center position.
Press the SPEAKERS switch corresponding to the speaker system to be used.
Set the TAPE 2 switch to OFF (TAPE 2 indicator goes off).

GRAPHIC EQUALIZER CONTROLS

The advantage of the GRAPHIC EQUALIZER over conventional tone controls is that with the five controls of the GRAPHIC EQUALIZER it is possible to control five different narrow, distinct sections of the audio band. With conventional tone controls a setting for a bass or treble boost or cut will also affect the lower or upper mid frequencies. The frequency bands controlled by the five slide controls have been chosen to yield the maximum possible control action within the audio spectrum.

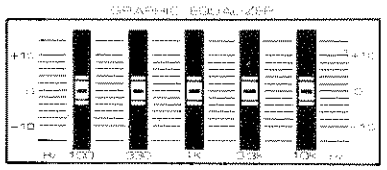
100 Hz: The 100 Hz control is very useful in enhancing low bass notes as in organ music.

330 Hz: The 330 Hz control will allow you to vary the upper bass frequencies.

1 kHz: The 1 kHz control is the presence control and can be used very effectively to emphasize, or de-emphasize vocalists.

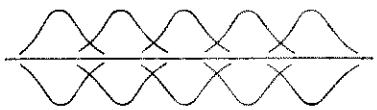
3.3 kHz: The 3.3 kHz control will add brilliance and clarity to brass instruments and violins.

10 kHz: The 10 kHz control can be used to make up for missing high frequencies absorbed by the environment and to add a natural crispness to music.



Emphasize frequency range

De-emphasize frequency range

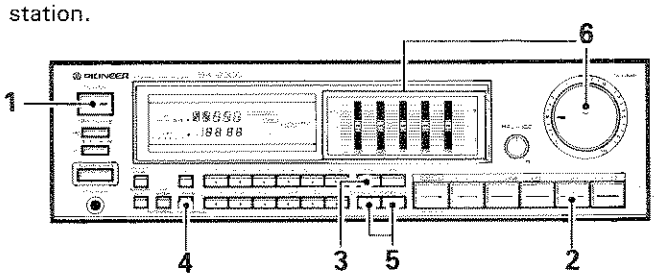


LISTENING TO THE BROADCAST

- Check that all terminals are properly connected before switching on the unit.

AUTO TUNING (FM reception)

The electronic tuning circuit inside the unit will search for the station.



1 **Turn on the POWER switch of the unit.**

2 **Press the TUNER switch of the function switches.**

3 **Set the band selector switches for FM reception.**

4 **Press the TUNING MANUAL/AUTO switch to establish the AUTO tuning mode (the AUTO indicator lights).**

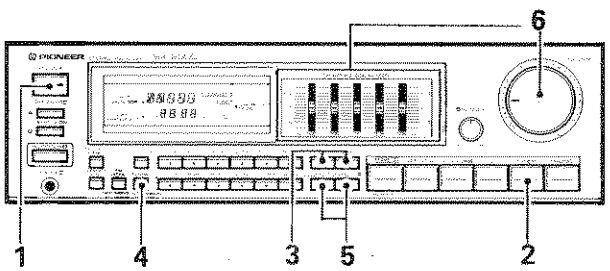
5 **Press the TUNING switches "UP (+)" or "DOWN (−)" for a higher or lower frequency as desired.**

The frequency will change rapidly during scanning. The AUTO TUNING will stop automatically when the station is located and the TUNED indicator will light up.

NOTE:
When the AUTO TUNING is in use, reception may not be possible over long distances or when signals are weak. At these times manual tuning is recommended.

6 **Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.**

MANUAL TUNING (FM/AM reception)



1 **Turn on the POWER switch of the unit.**

2 **Press the TUNER switch of the function switches.**

3 **Select your desired broadcasting band using the band selector switches.**

4 **Press the TUNING MANUAL/AUTO switch to establish the MANUAL tuning mode (the AUTO indicator goes off).**

5 **Use the TUNING switches to locate the frequency of the desired station.**

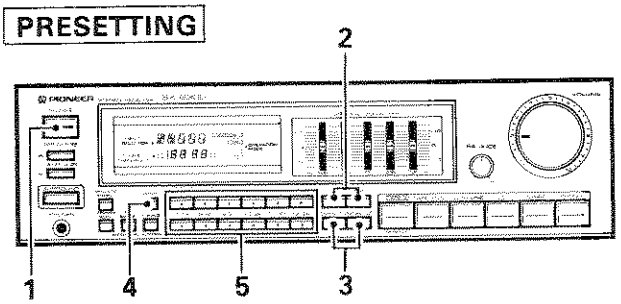
For step-by-step searching, press the TUNING switch once and release it immediately. For continuous rapid scanning keep the TUNING switch pressed. The TUNED indicator will light up when the desired station is tuned in best.

NOTE:
The TUNED indicator will not function for broadcasts received over long distances or when signals are weak.

6. **Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.**

PRESETTING STATIONS

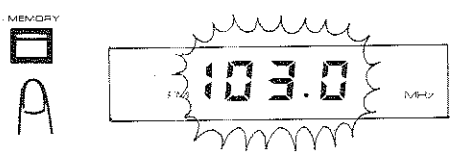
PRESETTING



1 Turn on the POWER switch of the unit.
2 Select band of station to be memorized.
3 Tune is desired station.
- See the AUTO TUNING section for information on reception using Auto Tuning.
- See the MANUAL TUNING section for information on reception using Manual Tuning.

When memorizing an FM station, either press the FM MODE switch to forcibly memorize the station in the monaural mode, or memorize the station in the auto stereo mode (with FM MODE switch left in the MONO position).

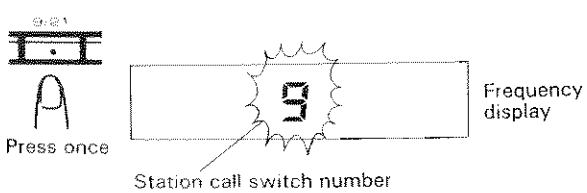
4 Press the MEMORY switch.
- The display will flash (about 5 seconds).



5 Press the STATION CALL switch.
- While the display is flashing, press the switch corresponding to the station which you wish to preset or re-preset.

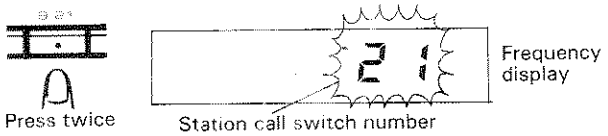
When presetting a station to Mode 1 (e.g. presetting a station to No. 9):

By pressing the station call switch once, the station will be preset to Mode 1. (1 ~ 12)



When presetting a station to Mode 2 (e.g. presetting a station to No. 21):

By pressing the station call switch twice, the station will be preset to Mode 2. (13 ~ 24)

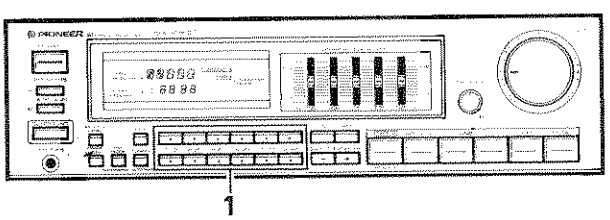


- After you press the STATION CALL switch, the display will flash for about 3 seconds, then the station will be memorized. If you press another switch while the display is flashing, the station will not be memorized.

MEMORY SCAN

Pressing the MEMORY SCAN switch, radio broadcasts preset in the memory are scanned in order for convenient confirmation. The scanning of preset stations can be cancelled by pressing the MEMORY SCAN switch once more or by pressing one of the STATION CALL switches.

RECEPTION USING PRESET TUNING



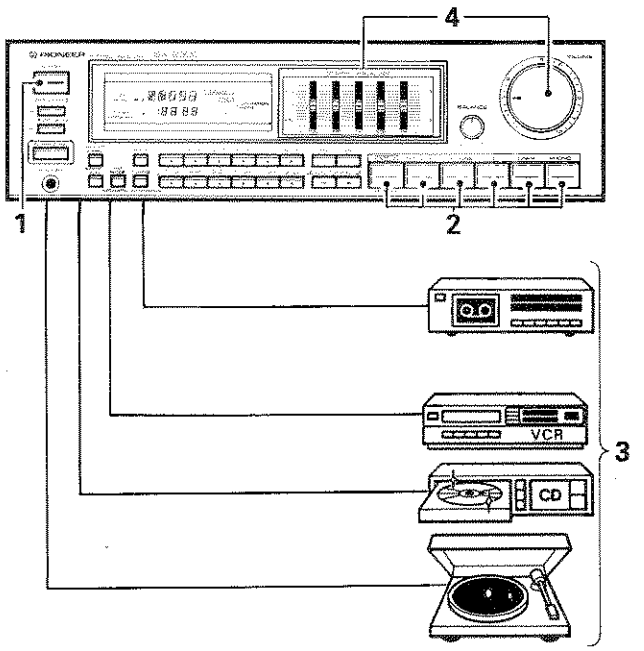
1 Press the STATION CALL switch into which the desired station has been memorized.
- To listen to a Mode 1 broadcast, press the switch once, and to listen to a Mode 2 broadcast, press it twice.
- By pressing the STATION CALL switch, the switch number will be displayed, then the frequency will be displayed.

In this way, simple and accurate reception of any desired station is possible.

NOTE:
If a preset station has been erased, consult with a Pioneer authorized service station.

Last station memory
- When the amplifier's POWER switch is pressed to turn the power on, the last station received before the power was previously turned off will be received again.
- When power is ON, if the BAND selector switch is pressed, the last station received before the BAND selector switch was previously pressed will be received again.

TO LISTEN TO OTHER MUSIC SOURCES



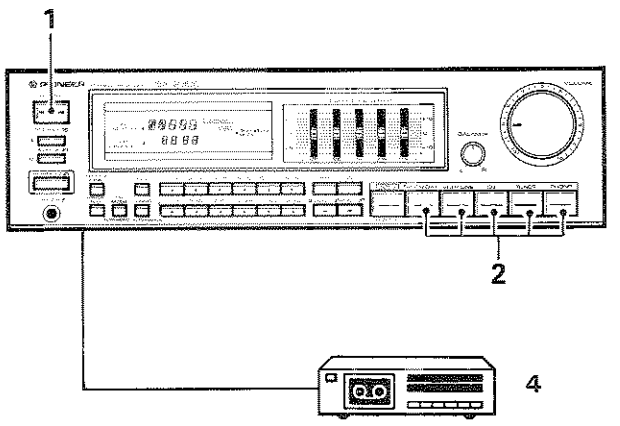
1. **Turn on the POWER switch of the unit. Also turn on the power to the stereo components you wish to use.**
2. **Use the function switches and tape monitor switches as appropriate to select the desired program source.**

	FUNCTION switch	TAPE MONITOR switch
To listen to a tape on the tape deck connected to TAPE 2 jacks	—	TAPE 2 ON
To listen to the component connected to VCR/LINE jacks	VCR/LINE	OFF
To listen to a CD	CD	OFF
To listen to records	PHONO	OFF
To listen to TAPE 1/DAT	TAPE 1/DAT	OFF

3. **Operate the appropriate stereo component to play back the program source.**
4. **Adjust the volume with the VOLUME control and the tone with the GRAPHIC EQUALIZER controls.**

TAPE RECORDING

[For a tape deck]



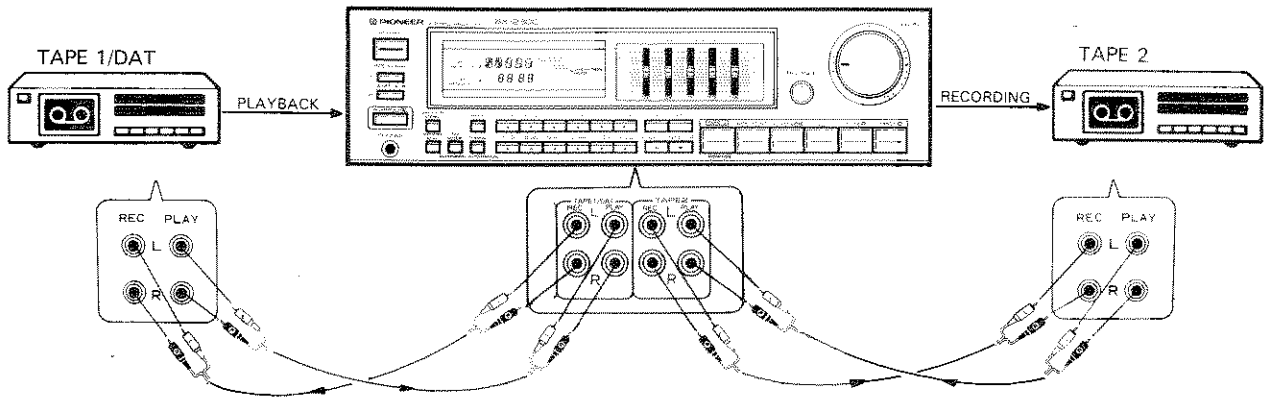
You can record an FM or AM broadcast, or a sound source connected to the VCR/LINE, CD, PHONO, or TAPE 1/DAT terminals.

1. **Turn on the POWER switch of the unit.**
2. **Select the sound source to be recorded.**
3. **Turn on (or start) the sound source to be recorded.**
4. **Operate the tape deck connected to the TAPE 1/DAT or TAPE 2 terminals.**
   - For details of operating the tape deck, read the operating instructions of the tape deck.

COPYING TAPES

When two tape decks are used, the sound played back on the deck connected to the TAPE 1/DAT jacks can be recorded on the deck connected to the TAPE 2 jacks.

- To make a tape copy with contents identical to the original tape.
- To edit a recording of an FM broadcast in order to cut out unwanted commercials, recording only the desired material onto another tape.



[When using two tape decks]

1 **Load the playback tape (i.e. the pre-recorded tape) in the deck connected to the TAPE 1/DAT jacks, and the tape to be recorded in the other deck connected to the TAPE 2 jacks.**

2 **Press the proper Function switch.**

- To copy from the tape deck connected to TAPE 1/DAT jacks to the deck connected to the TAPE 2 jacks ... Press TAPE 1/DAT.

3 **Operate the tape decks to begin copying.**
Set the tape deck with the original (playback) tape to the playback mode, and set the tape deck with the non-recorded tape to the recording mode.

HINTS FOR BETTER RECEPTION

EXTERNAL FM ANTENNA

The main advantage of FM over AM is the quality of the broadcast signal. In order to benefit fully from the high signal quality of FM broadcasts, it is recommended that a special-purpose FM antenna be installed. In weak signal areas, a multi-element (3 element, 5 element, 7 element) antenna should be used.

FM OUTDOOR ANTENNA CONNECTIONS

There are two ways of connecting the FM antenna to the antenna input terminals: with a 300-ohm twin-lead feeder or with a 75-ohm coaxial cable. To get the most from the receiver performance, a 75-ohm coaxial cable is recommended since it is more immune than the twin-lead feeder to noise and interference from external sources. If an FM antenna has already been erected outdoors, connect it, referring to the figure.

GROUNDING

Grounding is recommended if reception of FM programs is impaired by noise. To ground, connect a thick polyvinyl insulated wire to the GND terminal and attach the other end to a metal water pipe or grounding bar or wind it around a copper plate and bury it.

NOTE:
Never connect a wire to a gas pipe for grounding since sparks may ignite the gas.

EXTERNAL AM ANTENNA

If it is not possible to obtain adequate AM reception even by changing the orientation of the AM loop antenna, a separate indoor antenna, or an outdoor antenna should be installed.

INDOOR AM ANTENNA

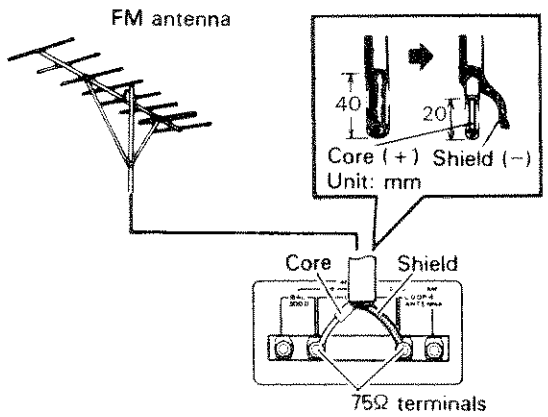
Use a vinyl insulated wire (5 — 6 m) and connect one end to the AM antenna terminal and affix the other end to the wall or ceiling, as high as possible.

OUTDOOR AM ANTENNA

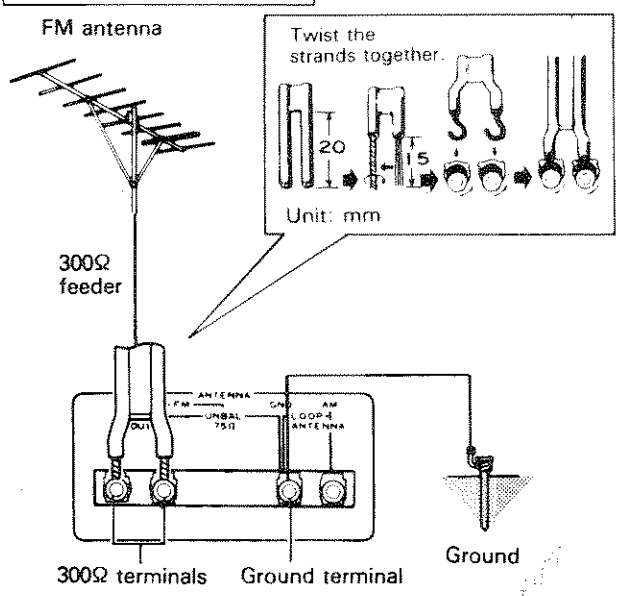
If reception quality is not improved sufficiently even when an indoor antenna is used, a vinyl insulated wire should be installed outside and fixed in place.

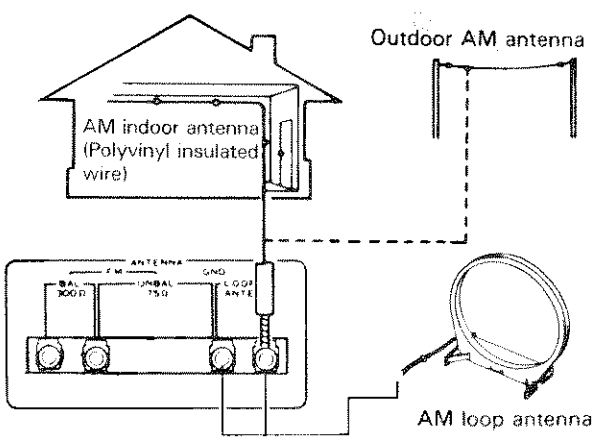
NOTE:
Do not detach the AM loop antenna when using an indoor or an outdoor AM antenna.

Connecting the coaxial cable



Connecting the 300Ω feeder





TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used.
If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
Power does not come on even when POWER button is pressed.	• Power cord is disconnected.	• Connect cord securely.
No sound is produced, even when FUNCTION button is selected.	• VOLUME control is set to 0 (MIN).	• Turn the VOLUME control toward.
	• Speaker connecting wires are disconnected from speaker terminals.	• Connect wires to terminals securely.
	• One or both of the input cords are disconnected.	• Connect input cords securely.
	• TAPE 2 switch is in the ON position.	• Press the switch to the OFF position.
Sound is produced from one speaker only.	• BALANCE control is set too far to one side or the other.	• Set BALANCE control to center position.
	• One of the speaker connecting wires or input cords is disconnected.	• Connect wires and cords securely.
Noise is produced during reception of AM broadcasts when the power button of this unit or other components is turned ON or OFF.	• AM loop antenna picks up electrical noise created by switch contacts.	• Place AM loop antenna as far away as possible from this and other components.
High noise level.	• Station has not been tuned in to correct frequency.	• Tune the station in correctly.
	• Antenna has not been connected or has become disconnected.	• Connect the antenna securely.
	FM reception • Accessory T-type antenna remains bundled up or it is not pointing in the right direction.	• Stretch both ends of antenna taut and locate in direction yielding optimum reception.
	• Weak broadcasting station signals.	• Replace accessory T-type antenna with outdoor FM antenna.
	• Noise picked up from other equipment (or, in particular, from passing automobiles). • Multipath results when signals from broadcasting station entering antenna directly are mixed with signals which have been reflected by mountains or high buildings on their way to antenna. This results in distorted sound and noise.	• Try altering direction and mounting position of antenna. If an outdoor antenna has been erected, place it as far away as possible from passing traffic and replace connecting cable with 75-ohm coaxial cable.
	AM reception • AM antenna not pointing in right direction.	• Chunge AM antenna's direction and find a position where reception is improved.
	• Weak broadcasting station signals.	• Erect outdoor AM antenna or connect ground wire.
	• Noise being picked up from other equipment (especially electrical appliances using motor or fluorescent lights).	• Stop using appliances generating noise or remove them from vicinity of stereo equipment.
No auto stop. (FM reception)	• Input signals are not strong enough.	• If a T-shaped antenna is used, change over to an outdoor antenna. • Perform manual tuning.

SPECIFICATIONS

[SX-2300]

Amplifier Section

Continuous Average Power Output is 60 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.07% total harmonic distortion.

Continuous Power Output (both channel driven)*
- 20 Hz - 20 kHz, T.H.D. 0.07%, 8 Ω ..... 60 W + 60 W

Dynamic power output (with EIA test signal)
- 2/4/8 ohms ..... 145 W/125 W/85 W

Total Harmonic Distortion*
- 1 kHz, 60 W, 8 Ω 0.01%

Input (Sensitivity/Impedance)
- PHONO ..... 2.5 mV/47 kΩ
- CD, VCR/LINE, TAPE 1/DAT, TAPE 2 ..... 150 mV/22 kΩ

Phono Overload Level (T.H.D. 0.01%, 1,000 Hz)
- PHONO ..... 130 mV

Output Level
- TAPE REC ..... 150 mV

Frequency Response
- PHONO (RIAA Equalization) ..... 20 Hz to 20,000 Hz ±0.5 dB
- CD, VCR/LINE, TAPE 1/DAT, TAPE 2 ..... 10 Hz to 70,000 Hz $^{+0.5}_{-3.0}$ dB

Signal-to-Noise Ratio (IHF, short circuited, A network)
- PHONO ..... 72 dB
- CD, VCR/LINE, TAPE 1/DAT, TAPE 2 ..... 97 dB

Graphic Equalizer frequency band
- ..... 100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz, ±8 dB

FM Tuner Section

Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... 10.8 dBf, IHF (0.95 μV/75 Ω)
50 dB Quieting Sensitivity
- MONO ..... 15.3 dBf (1.6 μV/75 Ω)
- STEREO ..... 37.1 dBf (19.5 μV/75 Ω)

Signal-to-Noise Ratio
- MONO ..... 78 dB (at 85 dBf)
- STEREO ..... 75 dB (at 85 dBf)

Distortion
- STEREO ..... 0.3% (1 kHz)

Alternate Channel Selectivity ..... 55 dB (400 kHz)
Stereo Separation ..... 35 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz (±1 dB)
Antenna Input ..... 300 Ω balanced, 75 Ω unbalanced

AM Tuner Section

Frequency range, when 10 kHz step ..... 530 kHz to 1,700 kHz
- When 9 kHz step ..... 531 kHz to 1,602 kHz

Sensitivity
- IHF, Loop antenna ..... 300 μV/m

Selectivity ..... 20 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... AM Loop Antenna

Miscellaneous

Power Requirements
- U.S., Canadian model ..... AC 120 Volts, 60 Hz
- Other destination models
  ..... AC 110 V, 120 V – 127 V, 220 V, 240 V (switchable), 50/60 Hz

Power Consumption
- U.S., Canadian models ..... 315 W (UL), 415 VA (CSA)
- Other destination models ..... 495 W

Dimensions ..... 420 (W) × 120 (H) × 337 (D) mm
16-9/16 (W) × 4-3/4 (H) × 13-9/32 (D) in

Weight (without package) ..... 7.0 kg (15 lb 7 oz)

Furnished Parts

FM T-type Antenna 1
AM Loop Antenna 1
Operating Instructions 1

**Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.*

NOTE:
Specifications and design subject to possible modification without notice due to improvements.

[SX-1300]

Amplifier Section

Continuous Average Power Output is 40 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.07% total harmonic distortion.

Continuous Power Output (both channel driven)*
- 20 Hz - 20 kHz, T.H.D. 0.07%, 8 Ω ..... 40 W + 40 W

Dynamic power output (with EIA test signal)
- 4/8 ohms ..... 80 W/65 W

Total Harmonic Distortion*
- 1 kHz, 40 W, 8 Ω 0.01%

Input (Sensitivity/Impedance)
- PHONO ..... 2.5 mV/47 kΩ
- CD, VCR/LINE, TAPE 1/DAT, TAPE 2 ..... 150 mV/22 kΩ

Phono Overload Level (T.H.D. 0.01%, 1,000 Hz)
- PHONO ..... 130 mV

Output Level
- TAPE REC ..... 150 mV

Frequency Response
- PHONO (RIAA Equalization) ..... 20 Hz to 20,000 Hz ±0.5 dB
- CD, VCR/LINE, TAPE 1/DAT, TAPE 2 ..... 10 Hz to 70,000 Hz $^{+0.5}_{-3.0}$ dB

Signal-to-Noise Ratio (IHF, short circuited, A network)
- PHONO ..... 72 dB
- CD, VCR/LINE, TAPE 1/DAT, TAPE 2 ..... 97 dB

Graphic Equalizer frequency band
- ..... 100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz, ±8 dB

FM Tuner Section

Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... 10.8 dBf, IHF (0.95 μV/75 Ω)
50 dB Quieting Sensitivity
- MONO ..... 15.3 dBf (1.6 μV/75 Ω)
- STEREO ..... 37.1 dBf (19.5 μV/75 Ω)

Signal-to-Noise Ratio
- MONO ..... 78 dB (at 85 dBf)
- STEREO ..... 75 dB (at 85 dBf)

Distortion
- STEREO ..... 0.3% (1 kHz)

Alternate Channel Selectivity ..... 55 dB (400 kHz)
Stereo Separation ..... 35 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz (±1 dB)
Antenna Input ..... 300 Ω balanced, 75 Ω unbalanced

AM Tuner Section

Frequency range, when 10 kHz step ..... 530 kHz to 1,700 kHz
- When 9 kHz step ..... 531 kHz to 1,602 kHz

Sensitivity
- IHF, Loop antenna ..... 300 μV/m

Selectivity ..... 20 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... AM Loop Antenna

Miscellaneous

Power Requirements
- U.S., Canadian model ..... AC 120 Volts, 60 Hz
- Other destination models
  ..... AC 110 V, 120 V – 127 V, 220 V, 240 V (switchable), 50/60 Hz

Power Consumption
- U.S., Canadian models ..... 175 W (UL), 235 VA (CSA)
- Other destination models ..... 280 W

Dimensions ..... 420 (W) × 120 (H) × 337 (D) mm
16-9/16 (W) × 4-3/4 (H) × 13-9/32 (D) in

Weight (without package) ..... 6.2 kg (13 lb 11 oz)

Furnished Parts

FM T-type Antenna 1
AM Loop Antenna 1
Operating Instructions 1

**Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.*

NOTE:
Specifications and design subject to possible modification without notice due to improvements.

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